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MINERAL PRODUCTION IN ILLINOIS IN 1956

W. L. Busch
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MINERAL PRODUCTION IN ILLINOIS IN 1956

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MINERAL PRODUCTION IN ILLINOIS IN 1956

W. L. Busch and W. H. Voskuil

ABSTRACT

The annual report of mineral production in Illinois summarizes the output and value of Illinois mineral products. Total value of the minerals produced in 1956 reached an all-time high of $606,798,000. The minerals include coal, petroleum, natural gas, stone, silica sand, gravel, fluorspar, and metals. Brief economic analyses of the mineral industries are accompanied by maps and tables. A directory of Illinois industrial minerals producers who reported recent production is included.

ILLINOIS MINERAL INDUSTRY

The variety and quantity of minerals produced in Illinois have provided the basis for a mineral industry that has grown in annual value over the years from less than 300 million dollars in 1940, just before World War II, to more than 600 million dollars in 1956.

Coal and oil, the two leading minerals in value, supply power and fuel for manufacturing, for transportation, and for mechanical power in such fields as agriculture. An abundance of sand, gravel, stone, and cement-making materials supplies the construction industries. Minerals for special purposes, such as refractory clays and clays for pottery making, silica sand for glass and other specialized industries, are produced in important quantities. Illinois also is the leading producer of fluorspar, a mineral important in the steel, chemical, and ceramics industries.

Nevertheless, Illinois does not have within its borders all the minerals and ores needed to support the wide variety of important manufacturing enterprises present in the state. In fact, iron ore is lacking. In spite of this lack, Illinois has become an advantageous site for manufacturing industries because assembling of mineral raw materials from widely scattered sources is most economically effected here.

For instance, we have a large primary iron and steel industry in the Chicago area and a smaller one in Granite City. The ores of iron come mainly from the Lake Superior district, and the special types of coking coal to smelt the ores comes principally from West Virginia and eastern Kentucky, although Illinois is supplying increasing amounts of selected coal for coking purposes. The use of Illinois coal in the production of metallurgical coke for the iron and steel industry is just getting under way.

To people unacquainted with the mineral resources that lie below the soil, Illinois appears to be simply an agricultural state, and indeed it is one of the richest farming regions of the world. The combined agricultural and mineral resources give Illinois a well balanced economy.

Table 1. - Summary of Illinois Mineral Production, 1955-1956[a]

Material	Unit	1955*,[c] Quantity	1955*,[c] Value at plants Total	1955*,[c] Value at plants Av.	1956[b,c] Quantity	1956[b,c] Value at plants Total	1956[b,c] Value at plants Av.
Coal - bituminous	tons	45,711,555	$167,304,290	$3.66	47,804,040	$192,172,240	$4.02
Crude oil	bbls.	81,131,000	237,713,830	2.93	82,314,000	242,826,300	2.95
Natural gas, natural gasoline Liquefied petroleum gases	-	-	6,200,000	-	-	6,000,000	-
Limestone and dolomite	tons	24,400,630	29,829,205	1.22	22,750,000	27,388,000	1.20
Cement	bbls.	9,397,098	25,031,520	2.66	9,450,000	25,515,000	2.70
Lime	tons	644,180	9,416,135	14.62	645,000	9,513,750	14.75
Clay products	-	-	54,855,665	-	-	59,046,070	-
Sand	tons	7,750,860	5,996,735	0.77	8,165,000	6,846,000	0.84
Gravel	tons	10,637,000	8,990,175	0.85	10,250,000	9,255,000	0.89
Special sands	-	-	10,782,275	-	-	11,938,260	-
Fluorspar	tons	166,337	7,838,470	47.12	175,000	8,500,000	48.57
Zinc	tons	21,700	5,338,200	246.00	23,985	6,475,950	270.00
Lead	tons	4,544	1,354,112	298.00	4,125	1,320,000	320.00
Silver	oz.	3,075	2,783	0.905	1,580	1,430	0.905
Annual mineral production			$570,653,395			$606,798,000	

* Revised figures.
a Compiled from figures by the U. S. Bureau of Mines, the Illinois State Department of Mines and Minerals, and the Illinois State Geological Survey.
b Preliminary or estimated figures.
c Subject to revision.

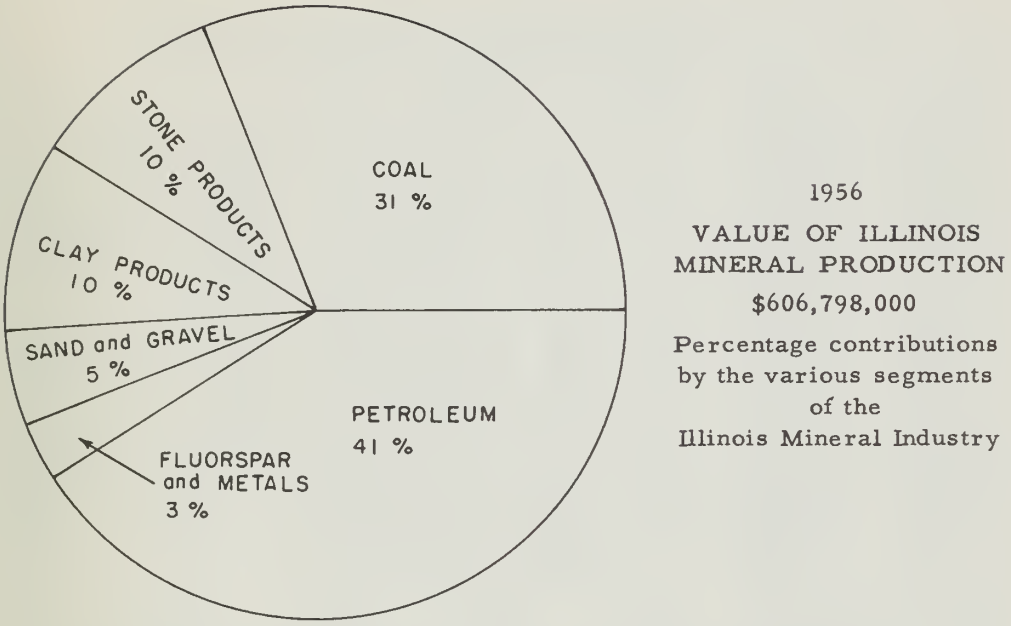

Fig. 1.- Value of Illinois mineral production in 1956.

SUMMARY OF PRODUCTION

Value of Illinois mineral production in 1956 rose to $606,798,000, highest in the state's history and an increase of more than six percent over the 1955 value.

The variety of minerals produced in Illinois and their quantities and values for the years 1955 and 1956 are shown in table 1. Although the total value for 1955 was close to the 600 million dollar mark, 1956 is the first year that the total value of Illinois minerals reached the 600 million dollar per year category.

Table 2 shows the history of the annual values of Illinois mineral production from the year 1915 through 1956, and table 3 shows the recent history of average prices for various individual commodities.

The first mineral in value of output for the year 1956 is petroleum and its associated hydrocarbon liquids and gases. Petroleum production in Illinois is beginning to show substantially the effects of secondary recovery practices. Since 1951 secondary recovery operations have increased in number and have contributed enough oil to the oil production of the state to more than offset the natural decline from the original drillings.

Coal has dropped to second place in value in Illinois, although for many years coal held first place among various minerals produced in this state. The coal mines of Illinois, at one time important suppliers to railroads in the Middle West, suffered a severe loss of market when railroads installed diesel locomotives. The recovery of coal output in 1955 and 1956, following a decline of several years, is explained in part by an increasing population and the accompanying increase in demand for electric power, manufactured goods, and a high output of primary steel.

Table 2. - Value of Illinois Mineral Production, 1915-1956[a]
(thousands of dollars)

Year	Mineral production	Year	Mineral production	Year	Mineral production
1915	$114,446	1930	$148,311	1945	$344,267
1916	146,360	1931	108,066	1946	379,673
1917	234,736	1932	71,693	1947	458,734
1918	271,244	1933	74,837	1948	567,624
1919	213,701	1934	89,212	1949	487,808
1920	373,926	1935	96,484	1950	539,236
1921	254,019	1936	117,916	1951	542,031
1922	244,618	1937	133,437	1952	500,820
1923	282,761	1938	130,155	1953	501,926
1924	235,796	1939	215,157	1954	519,242*
1925	231,658	1940	287,327	1955	570,653*
1926	237,242	1941	333,225	1956	606,798[b]
1927	180,394	1942	341,835		
1928	188,099	1943	337,912		
1929	182,791	1944	342,832		

* Revised figure.
a Compiled from figures by the U. S. Geological Survey, U. S. Bureau of Mines, Illinois State Department of Mines and Minerals, and the Illinois State Geological Survey.
b Preliminary figure.

Illinois is the nation's leading producer of fluorspar, a mineral used in the steel industry, in ceramics, in acid manufacture, and in the production of organic chemicals. The use of fluorspar as a fluxing agent to supplement or replace natural cryolite in the aluminum reduction industry is increasing and fluorspar producers seem assured of continued outlets for their product.

Continued residential and commercial construction, plus a highway building program, sustained demand for sand, gravel, stone, and clay products during 1956. Illinois limestone is also in demand for agstone and for use in the chemical and metallurgical industries.

Table 3. - Average Prices of Illinois Mineral Products[a]

Year	Coal (ton)	Crude oil (bbl.)	Limestone dolomite (ton)	Cement (bbl.)	Lime (ton)	Silica sand (ton)
1941	$1.81	$1.30	$ .91	$1.46	$6.99	$1.37
1942	1.91	1.36	.93	1.45	7.21	1.31
1943	2.13	1.37	.93	1.55	7.58	1.38
1944	2.23	1.39	1.00	1.55	7.78	1.39
1945	2.34	1.40	1.02	1.70	7.75	1.45
1946	2.61	1.59	1.08	1.76	8.45	1.51
1947	3.15	2.10	1.17	1.88	9.15	1.72
1948	3.88	2.77	1.26	2.04	10.60	1.91
1949	4.04	2.77	1.23	2.11	11.58	2.08
1950	4.05	2.77	1.21	2.19	12.15	2.13
1951	4.07	2.77	1.20	2.40	12.70	2.28
1952	4.10	2.77	1.27	2.40	12.84	2.30
1953	3.95	2.91	1.24	2.54	13.44	2.38
1954	3.82	3.00	1.27	2.57	13.95	3.07
1955	3.66	2.93	1.22	2.66	14.62	2.84

Year	Sand (ton)	Gravel (ton)	Fluorspar (ton)	Zinc (ton)	Lead (ton)	Silver (oz.)
1941	$ .45	$ .46	$22.85	$150.00	$114.00	$ .71
1942	.48	.52	26.59	186.00	134.00	.71
1943	.50	.49	31.66	216.00	150.00	.71
1944	.49	.49	33.79	228.00	160.00	.71
1945	.49	.49	34.06	230.00	172.00	.71
1946	.59	.57	35.55	244.00	218.00	.808
1947	.69	.58	36.78	242.00	290.00	.905
1948	.72	.65	36.64	266.00	358.00	.905
1949	.74	.65	38.23	248.00	316.00	.905
1950	.74	.68	39.52	278.00	266.00	.905
1951	.74	.75	45.49	364.00	346.00	.905
1952	.72	.71	50.35	332.00	322.00	.905
1953	.74	.76	52.46	218.00	266.00	.905
1954	.73	.78	55.54	216.00	274.00	.905
1955	.77	.85	47.12	246.00	298.00	.905

a Subject to revision.

COAL INDUSTRY

Domestic Coal Developments

The coal industry in the United States produced an estimated 500 million tons in 1956 compared with 464.6 million tons for 1955 (table 6), an increase of about 8 percent.

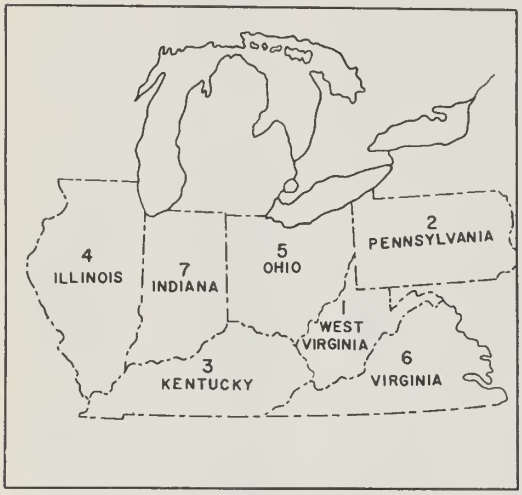

Fig. 2.- States that produced 90 percent of the nation's bituminous coal, 1956.

The producing states east of the Mississippi River, as a group, scored increases for the years 1954 and 1955 slightly above the national average increases while the coal producing states west of the Mississippi River, as a group, fell below the national average increases. However, 90 percent of the nation's bituminous coal is produced east of the Mississippi River (fig. 2). Not all of the eastern producing states, however, shared alike the increased output.

A development of considerable importance in the coal industry is the tendency of coal-consuming industries and coal production to locate on, or as near as possible to, inland waterways. This has been especially significant on the Ohio River in Ohio, Kentucky, and West Virginia.

The effect is already seen in the increased output of coal from these states, and further industrial expansion is anticipated for these areas. Loading docks in Illinois for the transfer of coal from rail or truck to barge are located at Rock Island and Alton on the Mississippi River, at Peoria and Liverpool on the Illinois Waterway, and at Shawneetown and Joppa on the Ohio River.

A new development for the transportation of coal is the construction of a coal pipeline between Cadiz and Eastlake, Ohio, a distance of 110 miles. Crushed coal of controlled size, mixed with water to form a slurry, is pumped into the line at Cadiz and moved at the rate of 150 tons an hour to an electric power plant at Eastlake. At the receiving end the coal is dried and sent directly to the boilers. This method of transportation, if completely successful, is ideally suited for one-customer service.

Foreign Markets for Coal

All the nations of western Europe have expanded their industrial production in varying degrees during 1955 and 1956, and the demand for coal has exceeded supplies from the major coal-producing countries - West Germany and Great Britain. Europe's third largest coal producer, Poland, has not supplied much coal to west European nations because its surplus output has been taken largely by the Soviet Union. Although a part of the increased fuel requirements needed for Europe's increased industrial output has been filled by oil from the Persian Gulf area, the requirements for metallurgical fuel could be met only with coal. A large portion of coal exported from the United States has been of the coking grade.

Table 4. - Illinois Coal Production by Counties, 1956[a]

County	Number of mines	Tons mined		Total tons	Total[b] value
		Underground	Strip		
Bureau	1	-	777,235	777,235	$ 3,124,485
Christian	2	5,725,068	-	5,725,068	23,014,773
Clinton	2	107,379	-	107,379	431,664
Douglas	1	386,915	-	386,915	1,555,398
Franklin	4	4,745,077	-	4,745,077	19,075,210
Fulton	24	66,420	5,298,457	5,364,877	21,566,805
Gallatin	13	109,861	135,981	245,842	988,285
Greene	1	-	6,308	6,308	25,358
Hancock	1	-	28,690	28,690	115,334
Henry	3	88,852	-	88,852	357,185
Jackson	7	663,521	591,153	1,254,674	5,043,789
Jefferson	1	2,654,179	-	2,654,179	10,669,800
Johnson	1	-	1,895	1,895[c]	7,618
Kankakee	1	-	839,066[c]	839,066[c]	3,373,045
Knox	4	-	1,661,150	1,661,150	6,677,823
LaSalle	5	-	5,134	5,134	20,639
Livingston	2	-	3,434	3,434	13,805
Logan	1	13,602	-	13,602	54,680
Macoupin	2	250,293	-	250,293	1,006,178
Madison	4	1,153,268	-	1,153,268	4,636,137
Marion	1	54,303	-	54,303	218,298
Menard	3	14,747	-	14,747	59,283
Montgomery	1	1,678,543	-	1,678,543	6,747,743
Peoria	13	32,024	393,632	425,656	1,711,137
Perry	8	1,167,399	2,658,984	3,826,383	15,382,060
Randolph	5	934,812	1,150,316	2,085,128	8,382,215
St. Clair	11	2,355,957	1,616,061	3,972,018	15,967,512
Saline	16	1,724,016	1,092,129	2,816,145	11,320,903
Sangamon	2	109,205	-	109,205	439,004
Schuyler	4	12,280	7,574	19,854	79,813
Tazewell	1	2,175	-	2,175	8,743
Vermilion	8	65,176	930,447	995,623	4,002,404
Washington	2	25,315	-	25,315	101,766
Will	1	-	155,154	155,154	623,719
Williamson	36	4,004,799	2,306,054	6,310,853	25,369,629
Total	192	28,145,186	19,658,854	47,804,040	$192,172,240

a Source: Production figures, Illinois State Department of Mines and Minerals.
b Average value for Illinois coal, f.o.b. mine, estimated at $4.02 per ton, 1956.
c Includes 217,991 tons mined in Grundy County.

Table 5. - Coal Production by Illinois Counties, 1882-1956[a]

County	Total production (in tons)	Total years of production	Last year of production
Adams	46,186	15	1942
Bond	7,355,569	57	1942
Brown	57,324	34	1950
Bureau	50,544,690	72	1956
Calhoun	96,247	27	1912
Cass	212,477	53	1941
Christian	222,650,258	72	1956
Clark	4,482	2	1955
Clinton	38,475,369	75	1956
Coles	198,932	6	1888
Crawford	44,786	13	1942
Douglas	1,860,123	11	1956
Edgar	915,698	41	1952
Effingham	796	1	1890
Franklin	476,705,849	58	1956
Fulton	184,948,510	75	1956
Gallatin	5,133,425	72	1956
Greene	639,363	73	1956
Grundy	40,656,799	75	1956
Hamilton	22,097	16	1905
Hancock	698,764	70	1956
Hardin	40	1	1890
Henry	22,019,761	75	1956
Jackson	84,435,668	75	1956
Jasper	23,739	11	1939
Jefferson	15,899,289	53	1956
Jersey	120,350	59	1951
Johnson	244,004	52	1956
Kankakee	6,881,677	37	1956
Knox	30,849,675	75	1956
LaSalle	65,525,559	75	1956
Livingston	10,106,940	75	1956
Logan	14,275,380	72	1956
Macon	11,000,468	65	1947
Macoupin	261,557,584	75	1956
McDonough	2,634,903	69	1951
McLean	5,544,139	47	1928
Madison	159,561,895	75	1956
Marion	39,066,856	75	1956
Marshall	12,516,141	70	1951

a Source: Illinois Department of Mines and Minerals.

Table 5. - Continued

County	Total production (in tons)	Total years of production	Last year of production
Menard	13,370,317	75	1956
Mercer	14,998,922	69	1952
Monroe	8,284	13	1941
Montgomery	86,337,504	75	1956
Morgan	190,787	64	1951
Moultrie	2,032,236	16	1924
Peoria	66,605,383	75	1956
Perry	168,056,023	75	1956
Pike	5,081	8	1942
Pope	1,562	11	1938
Putnam	10,071,893	29	1938
Randolph	71,828,488	75	1956
Richland	154	1	1890
Rock Island	3,846,169	67	1948
St. Clair	230,159,097	75	1956
Saline	192,971,550	75	1956
Sangamon	232,656,012	75	1956
Schuyler	2,999,077	74	1956
Scott	612,476	61	1942
Shelby	4,119,763	67	1950
Stark	1,227,280	69	1952
Tazewell	17,633,802	75	1956
Vermilion	151,823,129	75	1956
Wabash	186,144	29	1943
Warren	685,466	73	1954
Washington	17,799,326	75	1956
White	1,676,741	36	1940
Will	36,988,565	75	1956
Williamson	312,406,184	75	1956
Woodford	7,810,160	70	1951
Total (1882-1956)			3,422,639,387
Estimated production (1833-1881)			73,386,123
Total production (1833-1956)			3,496,025,510

Exports of coal from the United States rose from 51 million tons in 1955 to 69 million tons in 1956. Of this total western Europe took 29 million tons in 1955 and 41 million tons in 1956. Since World War II American coal has been a significant factor in maintaining Europe's high level of industrial activity. The long range prediction is that coal from the United States will continue to be of major importance to Europe for some time to come. The United Kingdom, West Germany, and Italy each received more than 50 percent of their coal imports from the United States.

Table 6. - National Production of Bituminous Coal, 1953-1956[a]
(thousands of tons)

State	1953	1954*	1955*	1956[b]	Percent of 1956 total
West Virginia	134,105	115,996	139,168	152,500	30.5
Pennsylvania	93,331	72,011	85,713	89,300	17.9
Kentucky	65,060	56,964	69,020	77,000	15.4
Illinois	46,010	41,971	45,932	48,000	9.6
Ohio	34,737	32,469	37,870	40,500	8.1
Virginia	19,119	16,387	23,508	27,500	5.5
Indiana	15,812	13,400	16,149	17,325	3.5
Alabama	12,532	10,282	13,088	13,000	2.6
Tennessee	5,467	6,429	7,053	8,200	1.6
Total	426,173	365,909	437,501	473,325	94.7
All other states	31,117	25,797	27,132	26,675	5.3
Grand total	457,290	391,706	464,633	500,000	100.0

* Revised figures.
a Source: U. S. Bureau of Mines.
b Preliminary figures.

Coal in Illinois

The record of coal production in Illinois for 1956 is shown in tables 4, 5, and 6. Table 4, "Illinois Coal Production by Counties, 1956," summarizes the 1956 production record by giving a complete county by county tabulation of amounts of coal produced, type of mining (strip or underground), number of mines, and the approximate value of the product. This table also shows that of the 36 counties that produced coal, 13 produced more than a million tons each or 90 percent of the state's output, as shown in figure 3.

Coal production by stripping methods predominates in the northwest counties of Fulton and Knox and is important also in Perry, Randolph, St. Clair, Saline, Vermilion, Williamson, and Bureau counties. Since 1951 the amount of coal produced in Illinois by stripping methods has varied from about 16.4 million tons to about 19.6 million tons per year.

During this same period total coal produced in the state ranged from a high of 54.8 million tons to a low of 41.7 million tons. Such comparative figures indicate that the coal stripping industry in Illinois not only has maintained a rather constant tonnage production but has gradually increased the percentage ratio up to 1956 when the industry produced some 19.6 million tons or 41 percent of the total coal produced in the state.

Table 5 shows the accumulated production by counties since 1882, when mining records were begun. Eleven counties have produced more than 100 million tons of coal in the 75 years of recorded production and account for three-fourths of the state's entire output. Of the 70 counties that have produced coal from 1882 to the present time, 36 are still producers (fig. 3).

The quantity of coal produced in Illinois each year follows very closely the national trend, up or down, and amounts to approximately 10 percent of the national total, as shown in table 6.

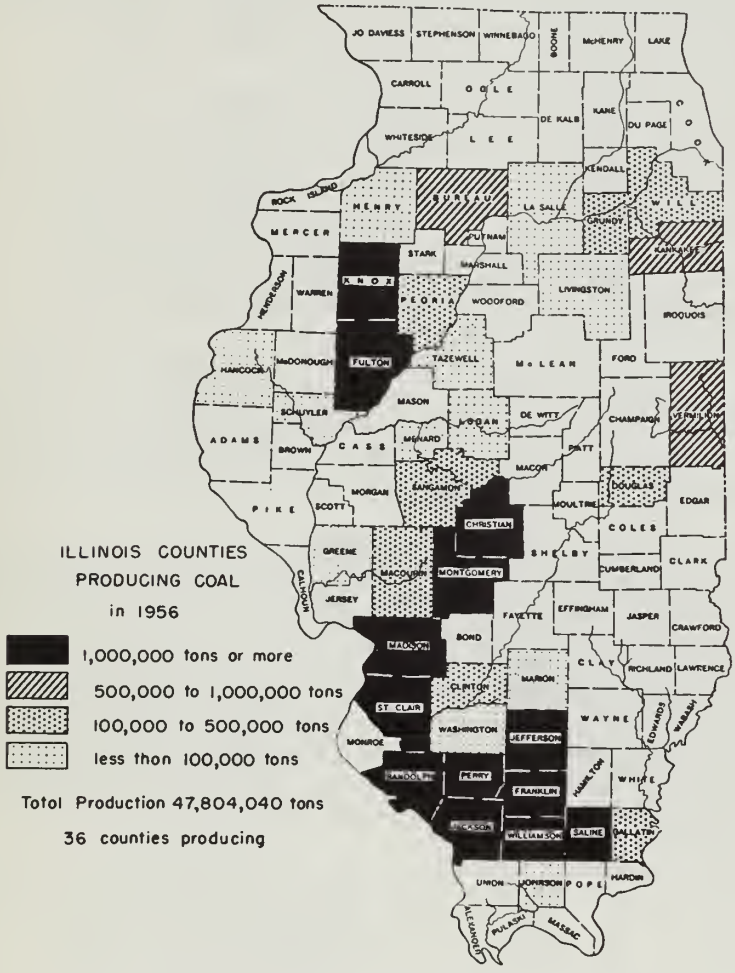

Fig. 3.- Illinois coal production by counties, 1956.

The trend in the Illinois coal industry is toward fewer mines but larger output for each mine. The record for the past six years bears this out.

Average Output by Shipping and Local Mines

Year	No. shipping mines	Av. output (tons)	No. local mines	Av. output (tons)
1951	136	386,729	166	13,702
1952	111	389,860	152	16,307
1953	97	452,034	135	15,695
1954	87	459,974	119	14,773
1955	85	516,244	113	16,201
1956	88	517,488	104	21,779

Coke Industry

The iron and steel industry of Illinois uses large quantities of coke in the iron blast furnaces to reduce iron ore to a free metal. Coke is produced when certain coals are heated to a high temperature to drive off moisture and volatile matter, leaving a solid sponge-like residue that burns readily and produces the high temperature necessary to smelt iron ore.

The coal from which coke is made is found mainly in Pennsylvania, West Virginia, eastern Kentucky, and Alabama. For Illinois iron makers, this means that the cost of the coal used in making coke is high because of the freight rate from eastern states. Furthermore, the traditional supplies of coal for metallurgical purposes are limited and the need of additional sources of coal for coking purposes is being recognized. Finally, the development of alternative methods of ore reduction are not likely to replace the blast furnaces, but will probably be applicable only in special circumstances where resources permit smaller units and more costly processes.

Because iron and steel output is expected to expand in the future with corresponding increased demands for coke, ways of making coke from coal that up to the present time has not been considered suitable for coke, have been actively investigated. As a result of studies, Illinois coal producers are preparing increased amounts of Illinois coal for use in the manufacture of metalurgical coke.

In 1955 a total of about 4.3 million tons of coal was consumed in Illinois coke oven plants. Most of this coal, some 3.7 million tons, originated in the eastern states, whereas Illinois sources supplied only about 600 thousand tons of coal for coking purposes. Recent figures indicate that Illinois coal is now being used at the rate of about 800 thousand tons per year for coking purposes.

Other markets for Illinois coal include an increasing demand for coal from the electric utilities for the production of electric power. Also, general manufacturing and cement mills maintained a high level of activity during 1956, which produced a sustained demand for coal. Two markets that showed a continuation of their declining demand for coal in 1956 are the railroads and the retail dealer deliveries.

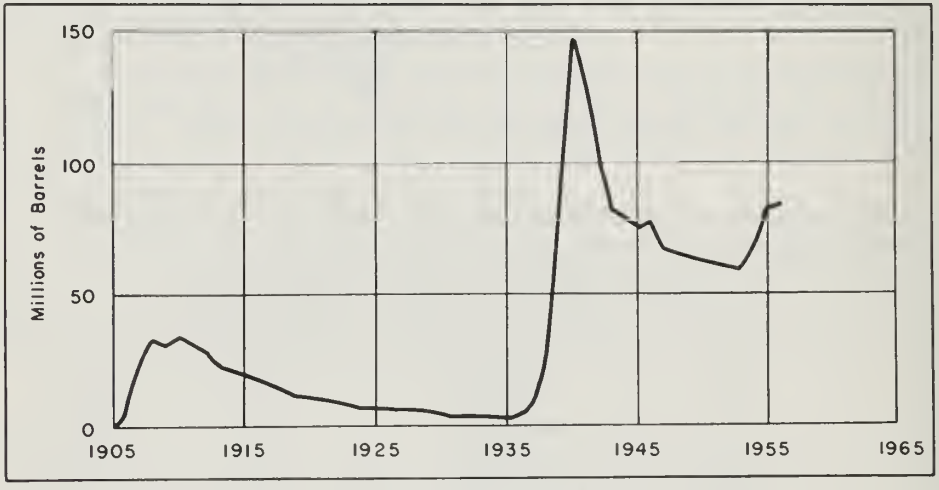

Fig. 4.- Illinois production of crude petroleum, 1905-1956.

PETROLEUM INDUSTRY

Oil and gas are of great importance to every individual in the United States. Crude oil and its associated products are the principal sources of fuel and lubricants necessary for our modern machinery. No matter what his occupation may be, each person depends upon oil and gas for living as we know it today.

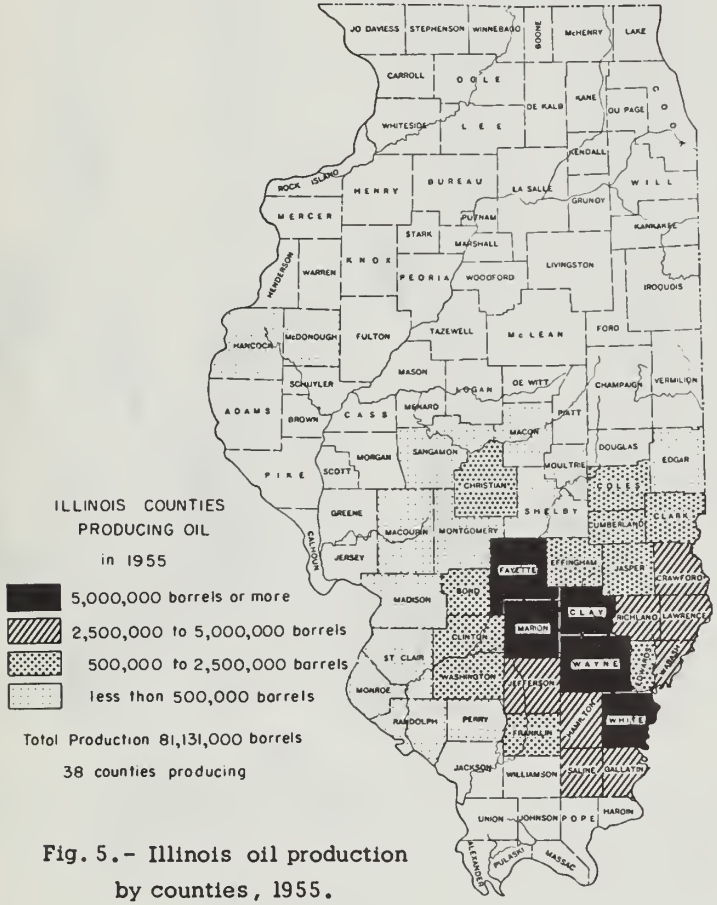

Fig. 5.- Illinois oil production by counties, 1955.

How much crude oil does it take to keep the 170 million people of the United States on the "go" today? Table 10 shows that in 1956 this country produced about 2.6 billion barrels of oil - an average of 7.1 million barrels of oil every day of the year. The United States has produced more than 2 billion barrels of oil per year since 1951, and the trend seems to indicate that the 3 billion barrel year is not too far away.

However, the production of crude oil alone is not the whole picture of the total amount of liquid hydrocarbons used in the United States during 1956. To the supply of domestic crude oil must be added the liquids derived from natural gas, plus imports of crude oil and refined petroleum products. The resulting net total supply of petroleum and associated liquid products is more than 3.2 billion barrels for 1956.

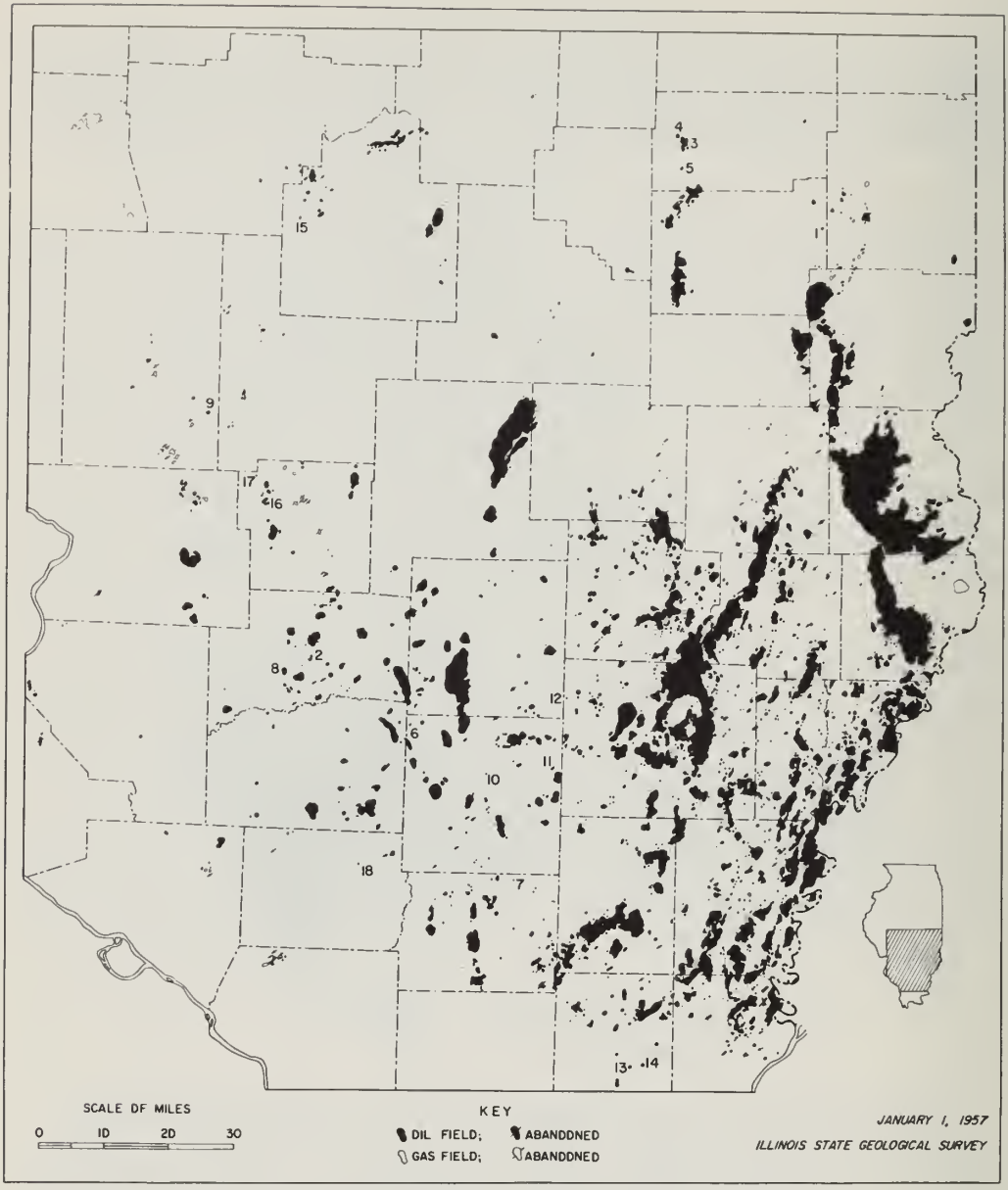

Fig. 6.- Oil pools discovered in Illinois in 1956.

1. Ashmore East
2. Beckemeyer (gas)
3. Bourbon
4. Bourbon North
5. Chesterville
6. Cravat West
7. Ewing West
8. Germantown East
9. Hornsby South
10. Mt. Vernon North
11. Oakdale
12. Orchardville North
13. Pankeyville
14. Pankeyville East
15. Sicily
16. Sorento South
17. Sorento West
18. Tamaroa West

Table 7. - Illinois Well Completions and Production, 1936-1956

Year	Completions[a]	Producing Wells	Production[b] (thousands of barrels) New fields	Old fields[c]	Total[d]
1936	93	52	-	-	4,445
1937	449	292	2,884	4,542	7,426
1938	2,536	2,010	19,771	4,304	24,075
1939	3,617	2,970	90,908	4,004	94,912
1940	3,755	3,080	142,969	4,678	147,647
1941	3,807	2,925	128,993	5,145	134,138
1942	2,017	1,179	101,837	4,753	106,590
1943	1,791	1,090 (20)[e]	77,581	4,675	82,256
1944	1,991	1,229 (12)	72,946	4,467	77,413
1945	1,763	1,094 (15)	70,839	4,371	75,210
1946	2,362	1,387 (17)	70,174	5,123	75,297
1947	2,046	1,102 (22)	61,455	5,004	66,459
1948	2,489	1,316 (21)	59,623	5,185	64,808
1949	2,741	1,447 (32)	58,571	5,930	64,501
1950	2,894	1,328 (23)	55,794	6,234	62,028
1951	2,383	947 (23)	54,147	6,097	60,244
1952	2,077	854 (35)	53,727	6,344	60,071
1953	2,161	1,161 (88)	51,924	7,101	59,025
1954	3,254	1,896 (107)	59,130	7,810	66,940
1955	3,885	2,164 (62)	72,016	9,115	81,131
1956	3,640	1,742 (85)	71,696	10,618	82,314

a Includes only oil and gas producers and dry holes.
b Based on information furnished by oil and pipeline companies.
c Includes Devonian production at Sandoval and Bartelso.
d From U. S. Bureau of Mines through 1950.
e Figures in parentheses indicate producing wells, included in total, previously completed as dry holes.

The continued and uninterrupted supply of liquid fuels is essential to present day living, yet it is doubtful that many of the users of our 60 million motor vehicles are aware that they are consuming a resource that has taken several hundred million years to produce and huge amounts of capital to recover and refine. The consumption of each gallon of gasoline, kerosine, diesel fuel, lubricants, and other petroleum products marks its end, whether it is used in a gasoline-powered lawn mower or a jet plane.

Domestic Production

Ten states, eight of them west of the Mississippi River, account for 90 percent of the petroleum production in the United States. Texas holds the dominant position with 42.5 percent of the nation's output (table 10). California, Louisiana, and Oklahoma, the three next largest oil producing states, together produce about 80 percent of the quantity produced in Texas. The remaining six states of the top ten - Kansas, Wyoming, New Mexico, Illinois, Colorado, and Mississippi - are considerably smaller by comparison.

Table 8. - Illinois Fields That Produced More Than One Million Barrels of Oil During 1956

Rank	Field	Production (barrels)	Percent of state total
1	Southeastern Illinois	10,658,000	12.9
2	Louden	9,972,000	12.1
3	Clay City Consolidated	9,229,000	11.2
4	Salem Consolidated	6,592,000	8.0
5	New Harmony Consolidated	3,973,000	4.8
6	Dale Consolidated	3,478,000	4.2
7	Roland Consolidated	2,520,000	3.1
8	Sailor Springs Consolidated	1,799,000	2.2
9	Inman East Consolidated	1,471,000	1.8
10	Cooks Mills Consolidated	1,217,000	1.5
11	Albion Consolidated	1,108,000	1.3
12	Phillipstown Consolidated	1,064,000	1.3
13	Herald Consolidated	1,056,000	1.3
14	Johnsonville Consolidated	1,055,000	1.3
15	Benton Consolidated	1,050,000	1.3
	Total	56,242,000	68.3
	Other fields	26,072,000	31.7
	State total	82,314,000	100.0

Imports

Imports of crude oil into the United States came principally from Venezuela, the Middle East, and Canada. Smaller shipments originated in Mexico, other South American countries, and the Far East. Imports in 1956 by source of origin were as follows:

Source	Thousands of barrels
Venezuela	167,050
Middle East	103,517
Canada	42,739
Far East	13,309
Other South America	9,986
Mexico	4,666
Other	566
Total	341,833

Illinois Production

Illinois leads all states lying wholly east of the Mississippi River in oil production for 1956. Illinois produced about 45 percent of the total for these states compared with 22 percent for second ranking Mississippi. At the present time Illinois ranks eighth in the nation in the production of crude oil. However,

during 1940, the year of peak production, Illinois ranked fourth, exceeded only by Texas, California, and Oklahoma. Illinois has had two major periods of oil activity, one from 1905 to about 1912 with a production peak of 33.6 million barrels in 1908, the other from 1937 to about 1941 with a production peak of 147 million barrels in 1940 (fig. 4).

Production in Illinois was 82.3 million barrels in 1956, an increase of about 1.2 million barrels over that of 1955. Table 7 gives a statistical history of Illinois oil production from 1936 through 1956, showing the number of well completions and the petroleum production from old fields and new fields. As indicated in table 8, Illinois had 15 fields in 1956 that produced more than one million barrels of oil each. Estimated production by counties for the year 1955 is shown in table 9, together with the value of the oil produced. Figure 5 illustrates the geographic distribution of Illinois oil production in 1955.

Table 9. - Estimated Oil Production by Illinois Counties, 1955[a]

County	Production (thousands of barrels)	Production Percent of total	Value[b] (thousands of dollars)
Bond	996.0	1.23	$2,918.0
Christian	1,616.0	2.00	4,735.0
Clark and Cumberland	2,087.0	2.57	6,115.0
Clay	5,035.0	6.21	14,752.0
Clinton	1,908.0	2.35	5,590.0
Coles	542.0	0.67	1,588.0
Crawford	2,639.0	3.25	7,732.0
Edgar	124.0	0.15	363.0
Edwards	1,604.0	1.99	4,700.0
Effingham	553.0	0.68	1,620.0
Fayette	8,225.0	10.14	24,099.0
Franklin	2,325.0	2.87	6,812.0
Hancock and McDonough	71.0	0.09	208.0
Gallatin	2,720.0	3.35	7,970.0
Hamilton	3,902.0	4.81	11,433.0
Jasper	2,104.0	2.59	6,165.0
Jefferson	2,546.0	3.14	7,460.0
Lawrence	3,889.0	4.79	11,395.0
Macon	104.0	0.13	305.0
Macoupin	0.5	-	1.5
Madison	488.0	0.60	1,430.0
Marion	8,925.0	11.00	26,150.0
Monroe	0.5	-	1.5
Montgomery	5.0	-	15.0
Moultrie	11.0	0.01	32.0
Perry	20.0	0.02	59.0
Randolph	304.0	0.37	891.0
Richland	2,690.0	3.32	7,882.0
St. Clair	28.0	0.03	82.0
Saline	4,189.0	5.16	12,274.0

Table 9. - Continued

County	Production (thousands of barrels)	Percent of total	Value[b] (thousands of dollars)
Sangamon	59.0	0.07	173.0
Shelby	24.0	0.03	70.0
Wabash	3,279.0	4.04	9,607.0
Washington	1,030.0	1.27	3,018.0
Wayne	6,933.0	8.55	20,314.0
White	10,155.0	12.52	29,754.0
Total	81,131.0	100.00	$237,714.0

a Subject to revision.
b Average price estimated at $2.93 per barrel.

Table 10. - National Production of Crude Oil, 1953-1956[a]
(thousands of barrels)

State	1953	1954	1955*	1956[b]	Percent of 1956 total
Texas	1,019,164	974,275	1,053,297	1,111,172	42.5
California	365,085	355,865	354,812	351,437	13.4
Louisiana	256,632	246,558	271,010	297,949	11.4
Oklahoma	202,570	185,851	202,817	215,016	8.2
Kansas	114,566	119,317	121,669	123,833	4.7
Wyoming	82,618	93,533	99,483	104,483	4.0
New Mexico	70,441	74,820	82,958	87,893	3.4
Illinois	59,026	66,798	81,423	82,156	3.1
Colorado	36,402	46,206	52,653	58,546	2.2
Mississippi	35,620	34,240	37,741	40,572	1.6
Total	2,242,124	2,197,463	2,357,863	2,473,057	94.5
All other states	114,958	117,525	126,565	144,375	5.5
Grand total	2,357,082	2,314,988	2,484,428	2,617,432	100.0

* Revised figures.
a Source: U. S. Bureau of Mines.
b Preliminary figures.

Reserves of Petroleum and Natural Gas in Illinois

The survey and estimate of petroleum reserves, as of January 1, 1957, made each year by committees of the American Petroleum Institute, shows an estimated proved reserve of 700 million barrels, a net increase of 9 million barrels over the previous year after allowing for withdrawals during 1956 (table 11).

For natural gas, the net reserve as of January 1, 1957, was estimated at 220 billion cubic feet, a decline of 14 billion from the previous year (table 12).

Table 11. - Estimates of Proved Oil Reserves in States Serving the Illinois Area[a]
(millions of barrels)

State[b]	1954	1955	1956	1957	Percent Change from 1956
Illinois	625	658	691	700	+1.3
Indiana	62	67	61	68	+11.5
Kansas	913	978	998	992	-0.6
Louisiana	2,760	2,962	3,255	3,675	+12.9
New Mexico	815	806	820	835	+1.8
Oklahoma	1,752	1,955	2,016	2,010	-0.3
Texas	14,999	14,982	14,934	14,783	-1.0
Wyoming	1,279	1,304	1,374	1,363	-0.8
United States	28,945	29,561	30,012	30,435	+1.4

a Source: American Petroleum Institute. b Figures as of January 1, each year.

Table 12. - Estimates of Natural Gas Reserves in Illinois and Other States[a]
(billions of cubic feet)

State[b]	1954	1955	1956	1957	Percent change from 1956
Illinois	231	254	234	220	-6.0
Indiana	36	36	33	34	+3.0
Kansas	15,788	15,758	16,293	17,566	+7.8
Kentucky	1,302	1,287	1,262	1,246	-1.3
Louisiana	34,459	36,800	42,436	45,054	+6.2
New Mexico	17,522	17,241	18,585	23,473	+26.3
Oklahoma	12,228	12,396	13,205	13,775	+4.3
Texas	106,530	105,129	108,288	112,729	+4.1
Wyoming	2,740	2,855	3,196	3,236	+1.3
United States	211,447	211,711	223,697	237,775	+6.3

a Source: American Gas Association. b Figures as of January 1, each year.

Oil is unlike coal or some of the metal ores in that the known reserve is only a few years ahead of annual requirements. Continual exploration for oil is an established part of the oil industry.

It is the practice of the industry each year to make a survey of the amount of oil reserve that has been proved and can be produced under current conditions of price and production practices. The oil reserves of the state, therefore, are established each year. This figure must not be misunderstood. It does not mean that all the oil in a state or in the nation has been discovered. It merely means that the figure given represents the known amount of oil on a given date. It is something like a bank balance that gives only the bank deposit of a given date and to which amounts are added or withdrawn from day to day.

INDUSTRIAL MINERALS

Next to fuels, the important mineral products of Illinois are the industrial minerals including cement, stone, common sand and gravel, silica sand, lime, and fluorspar. The major market outlets for these nonmetallic minerals is in construction of industrial and commercial buildings, highways, railway roadbeds, and housing. Fluorspar is used principally in the iron and steel and chemical industries; it also is used by glass and ceramics manufacturers.

Demand for structural materials in our industrial economy has increased in tonnages, but at the same time the demand has also become more exacting in the specifications for materials to be used for construction and industrial purposes.

Estimates of the value of Illinois industrial mineral production indicate that 1956 was one of the most productive years on record. Together these industrial minerals contribute about 15 percent of the value of the state's mineral output for 1956,and if the value of clay products is added, the percentage rises to about 25 percent.

CEMENT

Illinois has four cement manufacturing plants; two are located at Oglesby and one each at Dixon and LaSalle. Consumers of large quantities of cement buy directly from the producer on a contract price. Users of smaller amounts buy from local dealers. The industry is highly competitive in the many localities where there are a number of mills within shipping radius.

The success of a plant depends upon the market outlet obtainable for its product when the plant is operating at or near capacity. Because transportation is an important element in the delivered cost of cement, the success of a plant depends upon a large market in its vicinity, or upon having available to it low-cost transportation facilities, such as bulk water transportation by barge.

LIMESTONE AND DOLOMITE

Limestone and dolomite are the most important stone products in Illinois. The materials are useful in construction, highway building, railway roadbeds, agriculture, metallurgy, the chemical industry, lime and cement manufacture, and for several minor uses.

Value of limestone and dolomite produced in Illinois for all purposes except the manufacture of lime and cement was estimated at $27,388,000 in 1956. About 22,750,000 tons were quarried during the year. The counties leading in production of limestone and dolomite are Cook, Kankakee, Randolph, St. Clair, and Will, each of which generally produces a million tons a year.

AGRICULTURAL LIMESTONE

Farmers in Illinois used 2,900,000 tons of agricultural limestone in 1956. This is a slight increase over that used in 1955 but considerably below the high levels of consumption from 1944 to 1951. In that period consumption of agstone ranged from a low of 4,215,000 tons in 1944 to a high of 5,596,000 tons in 1946. Since 1943, increased use of fertilizer materials has competed with agricultural limestone for the farmer's dollar.

Increased crop yields resulting from the application of commercial fertilizers will ultimately require use of agricultural limestone for replenishment

Table 13. - Illinois Limestone and Dolomite Production,[a] 1955 and 1956

Use	1955*		1956[b]	
	Tons	Value	Tons	Value
Agricultural	2,547,485	$3,308,352	2,903,440	$3,778,400
Construction and paving	19,648,920	23,257,644	17,731,570	21,278,000
Metallurgical	317,575	555,776	281,765	287,550
Railroad ballast	486,255	550,503	647,325	806,050
Other	1,400,395	2,156,930	1,185,900	1,238,000
Total	24,400,630	$29,829,205	22,750,000	$27,388,000

* Revised figures.
a Excluding stone used in manufacture of cement and lime.
b Preliminary figures.

of calcium in the soil. Informed agronomists are of the opinion that only about half the Illinois farms have enough lime. Some of the unlimed land is in permanent pasture to which farmers generally do not apply limestone. Large areas of cropland, however, remain inadequately limed and there is need for demonstrating unequivocally that investment in limestone is more than returned in larger production.

CLAY PRODUCTS

Clay products were valued at 59 million dollars in 1956, showing an increase of almost 4.2 million dollars over the 1955 value. Clay products include such items as face and common brick, sewer pipe, flue pipe, drain and building tile, vitreous plumbing fixtures, glazed tile, and electrical porcelains. The metallurgical industries continued a brisk demand for various forms of special heat-resistant fire brick and silica brick.

Table 14. - Illinois Clay Products, 1955 and 1956

Clay products	1955*	1956[a]
Face brick	$7,620,380	$7,570,456
Common brick	7,022,310	7,430,445
Structural tile	542,000	520,347
Drain tile Sewer tile	3,555,915	3,964,150
Other structural products	1,452,525	1,433,332
Clay and silica refractories	13,068,250	14,603,390
Pottery and whiteware	21,594,285	23,523,950
Total	$54,855,665	$59,046,070

* Revised figures.
a Preliminary figures.

SPECIAL SANDS

Special sands, such as silica sand and natural bonded molding sand, also were in increased demand. Silica sand, which is the backbone of an extensive glass industry, is now used also by the oil industry in hydraulic fracture treatment of oil-bearing rock. Both silica sand and natural bonded molding sand go into molds for making metal castings, such as cylinder heads for automobile engines.

Table 15. - Special Sands in Illinois, 1955 and 1956

Uses	1955* Tons	1955* Value	1956[a] Tons	1956[a] Value
Silica sand				
Molding sand	711,299	$1,622,700	814,769	$2,149,347
Other uses[b]	1,904,140	5,793,940	2,006,521	6,483,717
Ground silica[c]	288,014	2,977,815	287,615	3,163,514
Total silica sand	-	$10,394,455	-	$11,796,578
Natural bonded molding sand	262,608	387,820	58,808	141,682
Total special sands	-	$10,782,275	-	$11,938,260

* Revised figures.
a Preliminary figures.
b Glass, grinding and polishing, blast, fire and furnace, engine, filter.
c For abrasives, ceramics, foundry and filler from ground siliceous material.

Table 16. - Illinois Sand[a] and Gravel Production, 1955 and 1956

Uses	1955* Tons	1955* Value	1956[b] Tons	1956[b] Value
Building sand	4,112,130	$3,207,206	4,287,000	$3,644,000
Paving and road sand	1,488,340	1,161,883	1,993,000	1,694,000
Other sand	2,150,390	1,627,646	1,885,000	1,508,000
Total sand	7,750,860	5,996,735	8,165,000	6,846,000
Building gravel	3,747,175	3,432,816	3,587,000	3,408,000
Paving and road gravel	4,468,500	3,656,155	4,305,000	3,745,000
Railroad ballast	402,255	223,415	410,000	349,000
Other gravel	2,019,070	1,677,789	1,948,000	1,753,000
Total gravel	10,637,000	8,990,175	10,250,000	9,255,000
Total sand and gravel	18,387,860	$14,986,910	18,415,000	$16,101,000

* Revised figures.
a Exclusive of silica sand and natural bonded molding sand.
b Preliminary figures.

FLUORSPAR AND METALS

Fluorspar and metals, which were valued at 14.5 million dollars in 1955, climbed to a value of 16 million dollars in 1956. Illinois fluorspar still encounters competition from foreign mines, but the increased demand from the manufacturers of hydrofluoric acid and from the steel industry has brought a number of Illinois mines back into production.

Fluorspar

Production of fluorspar in the United States in 1956 increased over that of 1955 from 239,500 tons to 309,496 tons, and shipments from mines increased from 279,540 tons to 319,850 tons. Imports of fluorspar exceeded domestic production, showing an increase from 363,419 tons to 490,742 tons, or 35 percent.

The United States is by far the first-ranking country in the world as a producer of fluorspar. Other important fluorspar producing countries and shippers of fluorspar to the United States in 1956 were, in order of volume shipped, Mexico, Spain, Italy, Canada and Newfoundland, and Germany.

Uses of Fluorspar

The importance of fluorspar lies primarily in its use as a flux or slag conditioner and as a source of fluorine. The largest single consumers of fluorspar have been the iron foundries and the steel industry, which use fluorspar as a flux in the production of basic open-hearth steel, electric furnace steel, ferro-alloys and alloy steel, and Bessemer steel.

In recent years the aluminum and chemical industries have taken increasingly larger amounts of acid-grade fluorspar for production of hydrofluoric acid. The aluminum industry's hydrofluoric acid goes almost entirely into manufacture of aluminum.

In the chemical industry, hydrofluoric acid is used primarily as an intermediate in the manufacture of numerous fluorine compounds, many of which are important in national defense.

Table 17. - Fluorspar Shipped from Mines in the United States, and Imports, 1955[a]

State	1955 Tons	1955 Value	Percent of United States total tons
Illinois	166,337	$7,838,471	59.5
Kentucky	8,899	308,140	3.2
Utah	7,328	151,140	2.6
Other states	96,976	4,292,647	34.7
Total	279,540	$12,590,398	100.0
Imports for use in United States	363,419	$8,540,431	

a Source: U. S. Bureau of Mines.

Ceramic-grade fluorspar is used mainly in the manufacture of opal, opaque, and colored glass, and to make opaque, white, or colored enamels for coating metal ware. It is used also as a flux in such operations as the manufacture of portland cement, rock wool, artificial abrasives, and basic refractory cement, and in the production of calcium carbide and cyanamide.

The future demand for fluorspar in the United States will be influenced by trends in its use for various purposes. Fluorspar is a relatively low-priced raw material by weight, and to a large extent the demand for it derives from this fact. Various attempts have been made to find substitutes for fluorspar used in the metallurgical field, but thus far other materials have been found to be less satisfactory or more costly.

Lead and Zinc

During 1956, in northern Illinois, two mining companies operated zinc-lead mines and mills near Galena in Jo Daviess County. In southern Illinois three mining companies produced zinc concentrate in milling fluorspar-zinc-lead ores. The total Illinois output of recoverable zinc was about 24,000 tons in 1956, or 11 percent more than in 1955.

Lead output in Illinois for 1956 was about 4,100 tons, compared with 4,500 tons in 1955. There were only two principal lead producers in the state in 1956 - one company in Jo Daviess County in northwestern Illinois, and one in Hardin County in extreme southern Illinois.

DIRECTORY OF ILLINOIS INDUSTRIAL MINERALS PRODUCERS

The following pages contain lists of mineral operators (except fluorspar and metals) who have reported recent production. The lists, arranged by product and by county, are not necessarily complete because of changes in organization, mining location, or other conditions.

The directory is published in order to aid consumers of mineral raw materials locate their most convenient sources of production, to answer queries of mine- and quarry-equipment manufacturers, and to give citizens of Illinois information about their local industries.

The list also will make the general report more valuable to teachers in the public schools who use the reports for studies in mineral resources and conservation.

LIMESTONE AND DOLOMITE PRODUCERS

Adams
- The Black & White Limestone Co., Box 87, Front & 8th Sts., Quincy
- Marblehead Lime Co., 300 West Washington St., Chicago 6
- Menke Stone & Lime Co., 828 Vermont St., Quincy

Boone
- Belvidere Lime Quarry, 225 East Marshall St., Belvidere
- Charles Lee & Sons, Irene Community, Kirkland
- Ewald Winkelman, 225 East Marshall, Belvidere

Calhoun
- Paul C. Herter, Golden Eagle

Carroll
- Allen Boyer, Mt. Carroll
- Kingery & Messmer, Lanark
- Minor Bros., 1003 8th Ave., Rock Falls
- Earl Randecker, Savanna

Clark
- Casey Stone Co., Box 128, Casey
- Ralph E. Montgomery, Box 128, Marshall
- Quality Lime Co., Marshall

Clay
- Iola Stone & Material Co., Box 326, Centralia

Coles
- Lange Stone Quarry, Box 183, Charleston 2
- Olen Humphres Stone Quarry, Ashmore

Cook
- Consumers Co. of Illinois, 79 West Monroe St., Chicago 3
- Dolese & Shepard Co., Box 227, LaGrange
- Material Service Corp., 300 West Washingtcn St., Chicago

DuPage
- Elmhurst-Chicago Stone Co., 400 West First St., Elmhurst

Effingham
- Winters Stone Quarry, Altamont

Fulton
- Chipman Limestone Quarry, 585 East Fulton St., Farmington

Greene
- Orton Quarry, Hillview

Hancock
- Colchester Stone Co., Room 314, 1630 5th Ave., Moline
- W. F. Hamma, Nauvoo
- R. L. O'Neal & Sons, Carthage

Hardin
- J. L. Bean Stone Co., Golconda
- P. R. Brown Stone Co., Box 355, Golconda
- Okerson Quarry Co., Box 226, Cave in Rock
- Rigsby & Barnard, Box 56, Cave in Rock

Henderson
- Galbraith Stone Quarry, Raritan

Henderson, continued
Charles J. Moore, P.O. Box 282, Dallas City
Olson Brothers, Box 355, Dallas City

Jackson
Illinois Quarry Co., Box 401, Ava

Jersey
Grafton Quarry, Grafton
Jersey Quarry, Inc., Jerseyville
Sievers Brothers, Fieldon

Jo Daviess
W. E. Broege, Warren
Virgil Hardacre, R.R. 2, Pearl City
Kingery & Messmer, Lanark
Dale Westaby, R.R. 4, Stockton
Elmer C. Wienen & Sons, 308 South St., Galena

Johnson
Southern Illinois Stone Co., Box 28, Buncombe
The Charles Stone Co., Cypress

Kane
Fox River Stone Co., R.R. 2, Elgin

Kankakee
Bourbonnais Stone Quarry, 284 South Clinton, Bradley
Lehigh Stone Co., Box 669, Kankakee
Manteno Limestone Co., Box 301, Manteno

Kendall
Centrall Limestone Co., R.R. 4, Morris
O. Gunnerson, Lisbon

Knox
Abingdon Rock Co., Inc., Abingdon

LaSalle
Sheridan Stone Co., Box 117, Sheridan
Troy Grove Stone Co., Troy Grove
Utica Stone Co., Spring Valley

Lee
Frank N. Butler Co., Franklin Grove
Ward McGinnis, R.R. 1, Dixon
Oregon Stone Quarries, Oregon
William Seitz, Oregon
Stoneridge Limestone Co., 503 Woolf Ct., Rochelle
Wilmer Gerdes Quarry, R.R. 2, Dixon

Livingston
Chenoa Stone Co., Pontiac
Livingston Stone Co., Inc., R.R. 4, Pontiac
Ocoya Stone Co., R.R., Pontiac
Pontiac Stone Co., Box 412, Pontiac
Wagner Stone Co., Route 5, Pontiac

Logan
Rocky Ford Limestone Co., R.R. 1, Lincoln

Madison
C. M. Lohr, Inc., Godfrey
Mississippi Lime Co., 7 Alby St., Alton
Reliance Whiting Co., Box 265, 16th St. & Alby St., Alton

Massac
Columbia Quarry Co., 1007 Washington Ave., St. Louis 1, Missouri

McDonough
John McClure, Colchester
Colchester Stone Co., Room 314, 1630 5th Ave., Moline

McHenry
Garden Prairie Stone Co., Inc., 104 South State St., Marengo

Menard
Athens Stone Quarry, R.R. 2, Athens
Indian Point Limestone Products, Mason City

Mercer
Independent Materials Co., Viola

Monroe
Columbia Quarry Co., 1007 Washington Ave., St. Louis 1, Missouri
Maeystown Quarry Co., Maeystown

Montgomery
Litchfield Stone Co., Litchfield

Ogle
Kutz Brothers Co., Forreston
Clarence Lenstrom, Stillman Valley

Ogle, continued
Macklin Brothers, Steward
Norris & Ludewig, Polo
Oregon Stone Quarries, Oregon
William Seitz, Oregon

Peoria
Lamar Stone Co., Box 423, Princeville
Long Rock Co., Princeville
Trivoli Stone Co., 168 North Cone St., Farmington
Princeville Stone Co., Princeville

Pike
Lacey & Bauer, Pearl
Marvin O. Lumley, Kinderhook
Pearl Stone Co., Pearl

Pulaski
Columbia Quarry Co., 1007 Washington Ave., St. Louis 1, Missouri

Randolph
Allied Chemical & Dye Corp., Solvay Process Div., Box 271, Syracuse 1, New York
Chester Quarry Co., Chester
Al Stotz, Pautler Heights, Waterloo

Rock Island
Collinson Stone Co., 3115 23rd Ave., Moline
Cordova Quarry Inc., 3115 23rd Ave., Moline
Midway Stone Co., Inc., Hillsdale

St. Clair
Casper Stolle Quarry & Const. Co., Route 1, East St. Louis
Columbia Quarry Co., 1007 Washington Ave., St. Louis, Missouri
East St. Louis Stone Co., 528 Murphy Bldg., East St. Louis
Hecker Quarry Inc., 301 South Jackson St., New Athens

Schuyler
Vern Mitchell Quarry, Browning

Scott
Kruger Quarry, Winchester
Thomas Quarry, Winchester

Stephenson
Ray Askey, Orangeville
W. E. Broege, Warren
Russel E. Cox, Box 46, Lena
Ed. Finkbiener & Sons, 4 East South St., Freeport
Elmer Fortner, 1406 South Walnut, Freeport
Rees Construction Co., 2474 11th Ave., Monroe, Wisconsin
Scofield & Co., 719 Youngs Lane, Freeport
V. H. Stich, Lena
Arthur Zimmerman, Pecatonica

Union
Anna Quarries, Inc., Anna
Jonesboro Stone Co., R.R. 1, Anna
Lutz Marble Co., Box 345, Anna

Vermilion
Material Service Corp., 300 West Washington St., Chicago

Warren
Monmouth Stone Co., Inc., 521 South Third St., Monmouth

Washington
Radom Quarry, Radom

Whiteside
Alldritt Bros., Morrison
Cordova Quarry, Inc., 3115 23rd Ave., Moline
Johnson Coal Co., Morrison
Fred R. McKenzie & Co., 405 Bondi Bldg., Galesburg

Will
Lincoln Stone Co., Box 1224, Joliet
Material Service Corp., 300 West Washington St., Chicago
National Stone Co., Box 1213, Joliet

Winnebago
Charles Ind Co., 1415 Point Ave., Rockford
Charles Lee & Son, Irene Community, Kirkland
William Nordhop, 1032 Kilburn Ave., Rockford
Porter Brothers, Roscoe
Art Zimmerman, Pecatonica

CLAY AND CLAY PRODUCTS PRODUCERS

Boone
- Munson Brothers & Co., Box 8, Capron

Brown
- Frederic Brick & Tile Co., Box 146, Mt. Sterling

Bureau
- Sheffield Shale Products Co., Sheffield

Cook
- Alexander Burke's Sons, 3900 South Cicero Ave., Cicero 50
- Brisch Brick Co., 228 North LaSalle St., Chicago 1
- Carey Brick Co., 6558 West Fullerton Ave., Chicago 35
- Chicago Brick Co., 135 South LaSalle St., Chicago
- Chicago Fire Brick Co., 1467 North Elston Ave., Chicago 22
- Chicago Pottery Co., 1920 Clybourn Ave., Chicago 14
- Illinois Brick Co., 228 North LaSalle St., Chicago 1
- George Keller Pottery Co., 2618 North Lakewood Ave., Chicago 14
- Northwestern Terra Cotta Corp., 1750 West Wrightwood Ave., Chicago
- Plibrico Co., 1840 Kingsbury St., Chicago
- The Ramtite Co., Div. of S. Obermayer Co., 2563 West 18th St., Chicago 8
- Tuthill Building Material Co., 545 East 103rd St., Chicago 28
- Wingert Pottery Co., 5035 West Foster Ave., Chicago

Crawford
- Case Manufacturing Corp., Robinson (33 Main St., Buffalo 3, New York)

Edwards
- Albion Brick Co., Albion

Fayette
- St. Elmo Brick and Tile Co., St. Elmo

Greene
- Ruckels Potteries, Inc., White Hall
- White Hall Sewer Pipe and Drain Tile Co., White Hall (LaClede-Christy Co., Div. H. K. Porter Co., Inc., 2000 Hampton Ave., St. Louis 10, Missouri)
- Lyndall W. Wyatt, Box 256, White Hall (clay)

Grundy
- Illinois Clay Products Co., 214 Barber Bldg., Joliet

Jackson
- Jackson County Brick Co., Campbell Hill

Kane
- Haeger Potteries, Inc., Dundee

Kankakee
- Eastern Illinois Clay Co., St. Anne
- Kankakee Clay Products Co., St. Anne
- St. Anne Brick & Tile Co., St. Anne

Knox
- Abingdon Potteries, Inc., 801 North Main St., Abingdon
- Purington Brick and Tile Co., Box 110, Galesburg

Lake
- National Brick Co., 3150 West Touhy Ave., Chicago 45
- Pickard, Inc., Corona Ave., Antioch

LaSalle
- The Conco-Meier Co., R.R. Lowell, Tonica
- LaClede-Christy Co., Ottawa (Div. of H. K. Porter Co., Inc., 2000 Hampton Ave., St. Louis 10, Missouri)
- Arthur Mart, Box 149, Streator (clay)
- Matthiessen & Hegeler Zinc Co., 9th and Sterling Sts., LaSalle
- Streator Brick Co., Streator (Div. of Hydraulic-Press Brick Co., 705 Olive St., St. Louis, Missouri)
- Streator Drain Tile Co., West 10th St., Streator

Livingston
Diller Tile Co., Chatsworth

Logan
Stetson China Co., 999 North Kickapoo St., Lincoln

Madison
Alton Brick Co., Box 394, Alton
Richards Brick Co., Edwardsville
Western Fire Brick Co., 16th St. & Madison Ave., Granite City

Marshall
Hydraulic-Press Brick Co., 809 Lehmann Bldg., Peoria 2

McDonough
Baird Clay Mine, Colchester (clay)
Illinois McGraw Electric Co., 510 North Pearl St., Macomb
Macomb Pottery Co., Macomb
Frank Nelson, Colchester (clay)
J. R. Purtscher, 1410 West Aire Ave., Peoria (clay)
Western Stoneware Co., Macomb (621 West 6th Ave., Monmouth)

McHenry
American Terra Cotta Corp., Box 225, Crystal Lake

Menard
Springfield Clay Products Co., Box 362, Springfield

Mercer
Hydraulic-Press Brick Co., 901 Putnam Bldg., Davenport, Iowa

Pulaski
American Charcoal Co., Olmsted (201 South Green St., Detroit 17, Michigan) (clay)

Rock Island
Van-Packer Co., Carbon Cliff (Div. of Flintkote Co., Rock Island)

St. Clair
Hill Brick Co., 51st St. & St. Clair Ave., East St. Louis
Hydraulic-Press Brick Co., Caseyville Twp. (705 Olive St., St. Louis 1, Missouri)

Saline
Harrisburg Brick and Tile Co., Harrisburg

Sangamon
Poston Brick & Concrete Products Co., 2600 East South Grand Ave., Springfield
Springfield Clay Products Co., Box 362, Springfield

Scott
Alsey Brick & Tile Co., Alsey

Tazewell
The Morton Pottery Co., 315 West Jefferson, Morton
Peoria Brick & Tile Co., Box 515, Peoria 1

Vermilion
General Refractories Co., Danville (1520 Locust St., Philadelphia 2, Pennsylvania)

Warren
Western Stoneware Co., 621 West 6th Ave., Monmouth

Will
General Refractories Co., Joliet and Rockdale (1520 Locust St., Philadelphia 2, Pennsylvania)

SAND AND GRAVEL PRODUCERS

Adams
Blick's Construction Co., Quincy
Quincy Sand Co., Front and Broadway, Quincy

Alexander
H. H. Halliday Sand Co., 224 10th St., Cairo

Bond
Greenville Gravel Co., Inc., Greenville
W. D. Lindsey, Keyesport
Cyril Munie, Pocahontas

Boone
Christensen & Smith, Capron
Vincent Spencer Sand & Gravel Co., 120 Burgess St., Belvidere

Brown
- T. F. Hollembeak & Son, Mt. Sterling
- Raymond Bridgewaters, Versailles

Bureau
- Floyd Clapp, Walnut
- Hansen Brothers, New Bedford
- Frank J. Poscharscky, Wyanet
- Swanson Brothers, Box 84, Princeton
- Western Sand and Gravel Co., 111 North Spalding St., Spring Valley

Calhoun
- West Point Sand Plant, Ellis Inman, Batchtown

Carroll
- Howard Nelson, Lanark
- Nicol Sand Co., Albert A. Nicol, Savanna
- Rein & Dahl, Box 120, Stoughton, Wisconsin

Champaign
- Gibson Brothers, 407 North Edwin St., Champaign
- Mahomet Sand & Gravel Co., Inc., Box 65, Urbana
- W. H. Troike & C. R. Plakenhorn, Box 327, Mahomet
- West Champaign Gravel Co., 404 North Neil St., Champaign

Clark
- Barthelemy and Lawrence, R.R. 2, Box 120-A, West Union
- Stanfield Gravel Co., R.R. 2, West Union

Clinton
- Lindsey Gravel Pit, Keyesport

Coles
- Martin's Sand & Gravel, 527 Ninth St., Charleston
- Pinnell's Gravel Pit, Ashmore

Cook
- Chicago Gravel Co., 343 South Dearborn St., Chicago 4
- Worth Sand & Gravel Co., 7545 West 111th St., Worth

Crawford
- Lawrence Bowman, 140 East Lamotte St., Palestine
- William J. Wyke, Box 11, Robinson

Cumberland
- A. B. C. Gravel Co., Greenup
- Casey Stone Co., 104 West Alabama, Casey

DeKalb
- Kirkland Gravel Yard, Kirkland
- Elmer Larson, Inc., 320 Prospect St., DeKalb
- Donald Tyrrell, R.R. 2, Sycamore

DeWitt
- H. M. Richgauer, P.O. Box 66, Clinton

DuPage
- Elmhurst-Chicago Stone Co., 400 West 1st St., Elmhurst
- John Purnell, Geneva Road, West Chicago

Fayette
- Don L. Burtschi, Vandalia

Ford
- W. V. Williams, Box 287, Gibson City

Fulton
- Liverpool Materials Co., 1265 North Main St., Canton

Gallatin
- Miller Sand & Gravel Co., Carmi

Grundy
- Material Service Corp., 300 West Washington, Chicago 6

Henry
- Collinson Brothers, 2405 27th St., Moline
- Oberlaender Sand Co., 519½ 15th St., Moline
- Schadt Service Co., 623 First Ave., Silvis

Kane
- Fox Valley Gravel Co., Box 423, R.R. 3, Aurora
- Warren W. Krahn, 724 South St., Dundee
- Material Service Corp., 300 West Washington St., Chicago 6
- L. G. Raymond, Big Rock
- Ed Schneider, R.R. 3, Box 72, Elgin
- Warren T. Sellen, 344 Cedar St., Aurora

Kendall
- Elmer Larson, Inc., Box 383, 320 Prospect St., DeKalb

Knox
- L. K. Bandy Construction Co., Maquon

Lake
- Carl L. Barthel, Antioch
- Big Hollow Sand & Gravel Co., Inc., R.R., Ingleside
- Consumers Co., 79 West Monroe St., Chicago 3

LaSalle
- Roy LaBolle, Somonauk
- LaSalle County Portable, Inc., Bridge St., Ottawa
- Moline Consumers Co., 314 15th St., Moline
- Edward O. Olson, Box 625, Newark
- River Industries Inc., Box 641, Seneca
- Spicer Gravel Co., 445 Union St., Marseilles
- Western Sand & Gravel Co., 111 North Spalding St., Spring Valley

Lawrence
- Gregory Gravel Co., Lawrenceville
- Pit Sand and Gravel Co., Lawrenceville
- Vincennes Gravel Co., Inc., Vincennes, Indiana

Lee
- Butler Sand & Gravel Co., Nelson
- C. C. Macklin, Steward
- Rock River Ready Mix, 206 Brinton Ave., Dixon

Livingston
- Estep Gravel Co., 604 East Oak St., Fairbury
- Valley View Dirt & Gravel Co., R.R. 1, Manville

Logan
- Lincoln Sand & Gravel Co., Box 67, Lincoln

Macon
- Decatur Sand & Gravel Co., 700 South Taylor Ave., Decatur
- Kirks Gravel Pit, R.R. 6, Decatur
- H. M. Rickgauer, Box 66, Clinton

Madison
- Alton Sand Co., Front & Henry St., Alton
- Gary Dredging Co., 958 Union St., Alton
- Mississippi Lime Co., 7 Alby St., Alton
- Thompson Asphalt Co., 6th & McCambridge Sts., Madison

Marshall
- Consumers Co. of Illinois, 79 West Monroe St., Chicago 3
- Vernon Henry, LaRose

McHenry
- Consumers Co. of Illinois, 79 West Monroe St., Chicago 3
- Crystal Lake Trucking & Excavating Co., R.R. 14, Box 184, Crystal Lake
- Garden Prairie Stone Co., Inc., 104 South State St., Marengo
- Floyd Greibel, Marengo
- Grove Gravel & Excavating Co., Fox River Grove
- McHenry Sand & Gravel Co., Inc,, 606 Front St., McHenry
- Wayne Nolan, R.R., Harvard
- Sylvester Tonyan, R.R. 1, Box 371, McHenry

McLean
- Heidelberg & McDowell, Box 49, Downs
- John Howes, R.R. 1, Bloomington
- McGrath Sand & Gravel Co., Inc., Lincoln

McLean, continued
Rowe Construction Co., 1523 West Market St., Bloomington

Ogle
Byron Sand & Stone Co., Byron
E. C. Kolpak, Oregon
Kutz Brothers Co., Forreston
McGrath Sand & Gravel Co., Inc., Lincoln
Rockford Blacktop Construction Co., 1615 Westchester Ave., Rockford
Shilling's Gravel Pit, R.R. 2, Milledgeville
Floyd Weigle, Shannon

Peoria
Chillicothe Gravel Co., 915 North 4th St., Chillicothe
Construction Materials Co., 100 Cass St., Peoria
Coogan Gravel Co., 903 Jefferson Bldg., Peoria
McGrath Sand & Gravel Co., Inc., Lincoln
Stevers, Inc., 2423 West Farmington Road, Peoria 5
C. L. Swords & Son, 107 South Jefferson Ave., Peoria 2

Pike
Victor Callender, 127 North Clinton St., Pittsfield
Missouri Gravel Co., 314 15th St., Moline

Randolph
Southern Illinois Sand Co., Inc., Chester

Rock Island
Blackhawk Aggregates, Inc., 230 4th St. West, Milan
Builders Sand & Gravel Co., 104 Western Ave., Davenport, Iowa
Moline Consumers Co., 314 15th St., Moline

St. Clair
Missouri-Illinois Material Co., 2100 North Wharf, St. Louis 6, Missouri

Sangamon
Buckhart Sand & Gravel Co., Inc., R.R., Mechanicsburg
Clear Lake Sand & Gravel Co., Box 378, Springfield
Springfield Sand & Gravel Co., R.R. 7, Springfield

Scott
Homer E. Grady, Exeter

Shelby
Corley Gravel, Cowden
Henry Cummings, Sullivan
Hanfland Sand & Gravel Co., Shelbyville

Tazewell
Hoffer Construction Co., Inc., Box 106, East Peoria 8
McGrath Sand & Gravel Co., Inc., Lincoln
C. A. Powley, R.R. 2, Washington
Spring Lake Sand & Gravel, Manito

Union
Bittle & Emrick, Anna

Vermilion
Blakeney Gravel Co., R.R. 4, Danville
Lawrence Clifton, Westville
Lewis & Co., Perrysville Road, Box 38, Danville
Jesse Speranza, R.R. 1, Westville
Elton A. Wagner Co., 505 North Gilbert St., Danville

Wabash
Allendale Gravel Co., R.R. 1, Allendale
Dunobar Sand & Gravel Co., Box 97, Bellmont
Mt. Carmel Sand & Gravel Co., Box 209, Mt. Carmel

White
Eastwood Sand & Gravel Works, Grayville
Frashier Brothers, Maunie
Miller Sand & Gravel Co., Carmi

Whiteside
- Anderson Ready Mix, 903 Avenue D, Rock Falls
- Ernest Johnson, Box 67, Lyndon
- Max Lawrence, R.R., Prophetstown
- Weldon W. Lawrence, Prophetstown
- Midwest Sand & Gravel Co., Sterling
- Vernon Schrader Gravel, R.R. 2, Sterling
- William L. Taber, 513 Market St., Prophetstown

Will
- Avery Gravel Co., Plainfield
- Chicago Gravel Co., 343 South Dearborn St., Chicago 4
- Material Service Corp., 300 West Washington, Chicago 6
- C. H. Monk, 211 Hunter St., Joliet

Winnebago
- Anderson Sand & Gravel Co., 519 East State St., Rockford
- Consumers Co., 79 West Monroe St., Chicago 3
- Illinois-Wisconsin Sand & Gravel Co., 228 North LaSalle St., Chicago 1
- John L. Kelly, Roscoe
- Larson Brothers Sand & Gravel, 1822 South 5th St., Rockford
- Northwest Gravel Co., 2340 Main St., Evanston
- Porter Brothers, Roscoe
- Sahlstrom & Sons, 217 Peoples Ave. Rockford
- South Beloit Sand Co., 228 North LaSalle St., Chicago 1

Woodford
- Wood-Mar Construction Co., 611 State St., Eureka

PORTLAND AND MASONRY CEMENT PRODUCERS

LaSalle
- Alpha Portland Cement Co., LaSalle (15 South Third St., Easton, Pennsylvania)
- Lehigh Portland Cement Co., Oglesby (Young Bldg., 718 Hamilton St., Allentown, Pennsylvania)
- Marquette Cement Mfg. Co., Oglesby (20 North Wacker Drive, Chicago 6)

Lee
- Medusa Portland Cement Co., Dixon (Cleveland, Ohio)

LIME PRODUCERS

Adams
- Marblehead Lime Co., Marblehead (300 West Washington St., Chicago 6)
- Menke Stone & Lime Co., 828 Vermont St., Quincy

Cook
- Marblehead Lime Co., South Chicago, Thornton (300 West Washington St., Chicago 6)
- The Standard Lime & Cement Co., LaGrange (2000 1st National Bank Bldg., Baltimore 3, Maryland)

St. Clair
- Aluminum Co. of America, East St. Louis (1501 Alcoa Bldg., 425 Sixth Ave., Pittsburgh 19, Pennsylvania)

SILICA SAND PRODUCERS

LaSalle
- The American Silica Sand Co., Inc., 402 Central Life Bldg., Ottawa
- E. C. Bellrose Sand Co., 1220 West Madison St., Ottawa
- Illinois Silica Sand Co., Box 36, Ottawa
- LaSalle Silica Co., Box 437, Ottawa
- Ottawa Silica Co., Box 437, Ottawa
- George M. Pendergast & Co., 226 South First St., Milwaukee, Wisconsin
- Standard Silica Co., Box 407, Ottawa
- Wedron Silica Co., 135 South LaSalle St., Chicago 3

Ogle
- National Silica Co., Oregon

NATURAL BONDED
MOLDING SAND PRODUCERS

Bureau
Frank J. Poscharscky, Wyanet Sand & Gravel, Wyanet

Carroll
Albert A. Nicol, Nicol Sand Co., Box 209, Savanna

Fayette
Mulberry Grove Sand Co., Charles D. Lutz & Sons, Mulberry Grove

Henry
Oberlaender Sand Co., 519½ 15th St., Moline

Kankakee
Portage-Manley Sand Co., Essex

Winnebago
South Beloit Sand Co., 228 North LaSalle St., Chicago 1

TRIPOLI AND GANISTER
PRODUCERS

Alexander
Ozark Minerals Co., 807½ Washington Ave., Cairo (tripoli)
Tamms Industries, Inc., 228 North LaSalle St., Chicago 1 (tripoli)
Western Fire Brick Co., 16th & Madison, Granite City (ganister)

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